an electrolyte membrane directly engaging the diffusion layer and arranged [[there]] between the cathode and the anode ~~, the cathode comprising a diffusion layer engaging directly against the membrane and a catalyst layer on the diffusion layer and bounding a free cathode compartment~~ , the method comprising the steps of:

causing protons produced at the anode to travel through the electrolyte membrane and then through the diffusion layer of the cathode to the catalyst layer, and

supplying oxygen via the free cathode compartment directly to the catalyst layer.

5. (previously presented) The method according to claim 4 in which methanol or a methanol water mixture is supplied as a fuel.

6. (previously presented) The method according to claim 4 in which the oxygen is supplied as pure oxygen or as atmospheric oxygen.

7. (previously presented) The method according to claim 4, further comprising the step of:

directly discharging water produced at the catalyst layer of the cathode through the free cathode compartment.

8. (currently amended) A low-temperature fuel cell comprising:

an anode;

a cathode;

an electrolyte membrane between the anode and the cathode;

a diffusion layer forming a face of the cathode and engaging directly against the electrolyte membrane; and

a catalyst layer forming an opposite face of the cathode, turned away from the anode, and bounding directly on a free cathode compartment.

9. (previously presented) The low-temperature fuel cell defined in claim 8 wherein the diffusion layer is composed of a proton-conducting material.